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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/933,414	08/20/2001	Ralf Eckert	LNUP:106_US_	5724

7590 05/22/2003

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EXAMINER	
GORDON, BRIAN R	
ART UNIT	PAPER NUMBER
1743	7

DATE MAILED: 05/22/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/933,414	ECKERT ET AL.	
	Examiner	Art Unit	
	Brian R. Gordon	1743	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *20 August 2001* .

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-10* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-10* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

11)☐ The proposed drawing correction filed on _____ is: a)☐ approved b)☐ disapproved by the Examiner.

If approved, corrected drawings are required in reply to this Office action.

12)☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

13)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____ .

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

14)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).

a) ☐ The translation of the foreign language provisional application has been received.

15)☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) *4* .
4) ☐ Interview Summary (PTO-413) Paper No(s). _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: .

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. Claim 9 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. Claim 9 depends upon claim 9, therefore it is improper. For examination purposes the examiner has interpreted the claim as being dependent upon claim 8.

3. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: Claims 2-4 and 7-9 recite that the movement distances are minimized by means of a mathematical model. The specification teaches the optimum arrangement is determined by a computer or electronic program. This teaching is not considered the same as a mathematical model.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 2-10 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

As to claims 2-10, it is unclear what the steps of the method are being claimed. It appears as if the claims are moreso device claims than method steps directed to treating cytological or histological specimens. The claims fail to further limit the method of claim 1.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

8. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation

under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

9. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ljungmann, US 6,017,495.

Ljungmann discloses a staining apparatus for staining of tissue specimens placed on microscope slides comprises a number of staining stations (4) and other working stations (1, 2, 3), where the staining stations (4) receive vessels (5) having liquid baths for receiving baskets containing microscope slides with the topical specimens, and a transport mechanism (17-20) having a hoisting device (17) arranged to be moved over the vessels (5) and to place baskets in or take these up from the vessels, and to transfer the baskets between the working stations (1-4) in accordance with a programme-controlled staining process.

The known staining apparatuses comprise a number of working stations which are arranged in one horizontal plane, in one or more rows, or in a circle.

This planar station arrangement results in that the known staining apparatuses are relatively **space-demanding** and unsurveyable. In addition to the fact that it is not possible to inspect the individual vessels and the liquid content or bath thereof without withdrawing the vessels manually from the apparatus, also the withdrawal and placing operations are relatively troublesome and difficult, since spill of liquid from the vessels must be avoided and especially the vessels in the innermost row are difficult to access.

Moreover, in such operations the operator may also easily be exposed to harmful fumes from the bath solutions in the vessels.

An object is to provide a staining apparatus wherein the accessibility to baths and baskets, for example in case of operational disturbances, is radically improved in relation to the known apparatuses, and wherein also the accessibility in emptying and filling of the vessels is correspondingly improved.

A further object of the invention is to provide a staining apparatus which has a **compact construction** and is not very bulky.

A further object is to provide a staining apparatus having a high production capacity and which is functionally efficient and reliable, at the same time as it can be built to a competitive price.

Ljungmann teaches that in microscopic examination of cell and tissue specimens it is necessary with a preparation of the specimens in accordance with certain mutually dependent working steps. After fixation and embedment of the specimens, the specimen blocks must be cut. In order to enable an easy microscopic examination, the embedment medium must be removed, and thereafter the specimens are stained.

The staining apparatus shown in FIG. 1 is constructed to be able to carry out all types of routine and special staining processes within the field of histology and cytology. In the illustrated embodiment the apparatus includes 36 working stations, but this number can be increased, for example to 50 stations. The stations may e.g. comprise four to five fetching/unloading stations, four to five waiting/stove stations, four to five water rinsing stations and twenty to thirty staining stations. In FIG. 1, said station types--

in the above-mentioned order--is designated by the reference numerals 1, 2, 3 and 4. Each of the staining stations 4 receives a container or vessel 5 having a dyeing bath 6 (see FIG. 2) for the reception of baskets 7 containing microscope slides with the topical tissue specimens. In a corresponding manner vessels 8 for input and output of baskets are arranged at the fetching/unloading stations 1, and on the rinsing stations 3 there are arranged suitable containers or vessels 9 for rinsing water baths.

As shown, the waiting/stove stations 2 are shaped as an upwardly open casing 14 (melting container for containing a plurality of baskets) having an upper edge for the support of slide baskets 7 in a number of stove positions corresponding to the individual stations. The stations are heated by means of hot air supplied from a fan 15 in combination with a heating element (not shown).

The electronic units, which are based on microprocessor technology, controls the operation of the apparatus in accordance with the topical programme. The apparatus has a memory (EEPROM) in which there may be stored up to 32 different programmes. Up to three different programmes can be in operation simultaneously. The electronic units give the possibility for print-out of staining or dyeing programme and baths conditions. Further, there is a possibility for automatic warning of dyeing bath conditions.

Ljungmann does not specifically recite that the distances between the processing stations are arranged a minimal distances apart nor that the distances are minimized by a mathematical model.

However it would have been obvious to one of ordinary skill in the art to recognize at the time of the invention that the device of Ljungmann is optimally designed to be in a compact arrangement, resulting in the stations being arranged a minimal distance apart. As recited above this arrangement allows for a staining apparatus having a high production capacity and which is functionally efficient and reliable, at the same time as it can be built to a competitive price.

As to the arrangement being based upon calculations of a mathematical model of a computer, it would have been obvious to one of ordinary skill in the art at the time of the invention to recognize that mathematical models are readily employed for the purpose of designing various systems. The mathematical models allow one to obtain preliminary results of a practical design without absorbing the actual cost of building the physical system. This further allows one to test different possible designs or scenarios in order to obtain the optimum solution or arrangement. As such it would have been obvious to one of ordinary skill in the art to recognize that the microprocessor of Ljungmann may be employed to include such a program or model that would allow for optimal through-put of the staining of tissue specimens on the microscope slides.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Ljungmann et al., Edwards et al., Richards et al., Meikle, Bogen et al. (,963; ,061), Keefe, Tabata, Pedersen, Muck et al., Wilkie et al., Howells et al., Chu, Titcomb et al., Henkin, Williamson et al., Muller et al., and Clarke disclose staining or processing devices.

Ulbrich, Jackson et al., Knight, Maeda et al., Gotz, and Gaidos et al. disclose mathematical models.

Nagasaki et al. and Imoto disclose compact controllers.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Gordon whose telephone number is (703) 305-0399. The examiner can normally be reached on M-F, with 2nd and 4th F off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill Warden can be reached on 703-308-4037. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9310 for regular communications and (703) 872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

brg
May 19, 2003

Jill Warden
Supervisory Patent Examiner
Technology Center 1700